AD NAVIGATION

SERIES DC 200

GPS/GLONASS L1/L2 RTK RECEIVER

One Button. Millions of Signals.

Specialists in Precise GPS Navigation

www.adnav.com

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AD Navigation DC200-series

GPS/GLONASS L1/L2 RTK Receiver

With a 19" rack form factor, the new DC-200 series RTK receivers from AD Navigation provide real time positioning data at the 1 cm level while attaining the highest reliability and stability possible. The DC-200 series RTK receivers are specifically designed to meet the most demanding requirements from the hydrographic and dredging industries.

Unique Advantage of Seamless Combination GPS and GLONASS

The heart of the AD Navigation DC-200 RTK receivers is built around the world's most advanced GPS/GLONASS L1/L2 technology. By seamlessly combining the GPS and GLONASS system, the DC-200 series RTK receivers access the total of 40 positioning satellites. During normal operation, the DC-200 series RTK receivers track 30-50% more satellites than does a GPS-only system.

Integrated High Quality UHF Receiver

The DC-200 series RTK receivers integrate a UHF receiver. By using diversity receiver techniques (dual antenna system), reception of the UHF signal is significantly improved, even under difficult radio conditions. The base station sends CMR corrections at up to 5Hz. The diversity receiver technique, in combination with high update rate of CMR correction broadcasts, results in operational RTK up to 80 kilometres from the RTK base station!

Optional Heading

As an attractive option, the DC-200 series can offer precise heading. With two GPS/GLONASS antennas installed, accuracies of 0.01 deg are achieved at 10 times per second. The unit contains no moving parts, and neither calibration nor maintenance is needed.

User Friendly 19" Rack System

This state-of-the-art technology is available in a 19" rack form factor, making your installation very easy. GPS/GLONASS, UHF radio, and PPS TTL device, are all built into one box. User configuration is minimal; the receiver installation is plug and play.

RTK Reference Station

For RTK Operation, AD Navigation supplies the compact DC201B as GPS/GLONASS L1/L2 Reference Station.

Let the waves rock your boat
... not your GPS

User Experiences

For some time now, the Survey and Dredging Departments of the Port of Rotterdam Authority have been using this technology from AD Navigation on all of their hydrographic vessels.

"We have been using various RTK positioning systems for almost a decade, and up until now, have seen inconsistent GPS performance. With the DC-200 series RTK receivers from AD Navigation, our down time as a result of poor GPS/RTK performance and satellite drop-outs is now reduced to zero, even under the most difficult satellite tracking conditions close to large vessels, buildings, bridges and container cranes."

Jeroen van Reenen
Head of the Hydrographic Department
Port of Rotterdam

Highlighted Features

- **GPS/GLONASS L1/L2 Tracking**
- **5 Hz Update Rate (20 Hz optional)**
- **Precise Heading Option**
- **Integrated UHF with Diversity Reception**
- **WAAS/EGNOS Capability**
- **Integrated PPS with TTL Pulse, RS232**
- **4x DB9 Com Ports**
- **19" Mounting Rack System**

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Technical specifications

Tracking:
20 Channel Dual Constellation (DC) GPS/GLONASS L1/L2
Cold start: < 60 seconds
Warm start: < 10 seconds
Reacquistion: < 1 second

Processing: Co-op Tracking and Advanced Multipath Reduction

DC200 Series RTK Positioning[1] and Heading Accuracies[2]:
Horizontal: 1 cm + 0.15 ppm RMS (DC201/202)
Vertical: 1.5 cm + 0.15 ppm RMS (DC201/202)
Heading: 0.01 degrees RMS (DC202 only)

Update Rate:
Positioning: 5Hz (DC201/202) 20Hz Optional
Heading: 10Hz (DC202 Only) 20Hz Optional

RTK Initialisation[1]: Typically 10-30 seconds

Operating Range[3]: Up to 80 km

Built-in UHF Radio Modem:
Frequency Range: 380-470 MHz
25 Khz Channel Separation
19,200 bps on Air Transmission
Diversity Reception (Dual Antenna System)

Timing:
External PPS Output
PPS to TTL converted to RS232 Interrupt Signal

Output formats:
GPS based NMEA-0183 Messages
Proprietary ASCII and Binary Output Formats
CMR/RTCM, Differential Corrections

Input Formats:
CMR/RTCM, Differential Corrections

Accessories:
GPS/GLONASS L1/L2 Marine Antenna
AC and DC Power Cables
DB 9 Serial Cables

Physical specifications

Power input: 12-28 VDC or 110-230 AC

Size: 2U 19" rack unit, 254 mm (d), 89 mm (h)

Weight: 4.8 kg

Environmental: Vibration, EMI: EN 60945

Temperature:
Operation: -20 to 55°C
Storage: -40 to 70°C

Communications:
4 x RS232 com ports, DB9, 115,200 bps
1 x RS232 TTL , DB9
1 x PPS output, BNC-F
1 x GPS antenna input, TNC-F (N optional)
2 x UHF antenna input, TNC-F (N optional)

[1] *Performance is dependent on GPS/GLONASS satellite geometry, environment, ionospheric conditions and distance to the base station*
[2] *Antenna separation > 10 meter*
[3] *Operating range is depending on availability of differential correction data*

Note: Specifications subject to change without notice.

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